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ABSTRACT

In addition to data on FY 1988-89, the 12 tables that constitute the major part of this report on computer utilization at the University of Tennessee at Chattanooga (UTC) provide comparisons among the 10 annual inventories that have been conducted, and demonstrate growth patterns over the 10-year period. The first five tables organize data by academic department from 1976 through 1989, including: (1) the number of courses using computers; (2) the number of faculty who use computers; (3) the primary method of using computers in courses--e.g., computer assisted instruction (CAI), simulation, word processing; (4) relationships of computing to courses (i.e., integral, supplementary, or incidental); and (5) the amount of computer usage per student per semester. Table 6 records the types of computer hardware used in curricula by individual academic departments during 1988. The connect and CPU times for accounts on various mainframe systems from 1984 to 1989 are reported in Tables 7, 8, 9, 10, and 11. Table 12, which appears for the first time in this report, presents a detailed report on the usage of microcomputer laboratories by individual academic disciplines for the spring semester of 1989. (SD)

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CENTER OF EXCELLENCE FOR COMPUTER APPLICATIONS (CECA)

SUMMARY OF COMPUTER USAGE AND INVENTORY OF COMPUTER UTILIZATION IN CURRICULUM FY 1988-89

The University of Tennessee at Chattanooga

July 1989

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The University of Tennessee at Chattanooga

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Evaluation of FY 1988 - 89 Computer Usage Survey

The 1989 Inventory of Computer Utilization is the tenth in a series published on a regular basis since 1976. These ten documents provide valuable information about the growth patterns in computer usage and report on the changing status of computers in the curricula at The University of Tennessee at Chattanooga.

In 1976, when the first inventory was conducted, faculty and students had access to only two computer systems - the HP2000 and a remote line to the IBM 360 computers at UT-K. Today, the UTC community can choose to use four microcomputer clusters under the jurisdiction of the Center of Excellence for Computer Applications (CECA). In addition, three mainframe systems for instruction and research are available on campus, while other IBM and VAX systems at the Knoxville campus can be accessed through a remote link-up. In the summer of 1988 the HP3000 Series III was disconnected after ten years of service and in December the Series 58 was donated to the Library. In January an HP950 Series 950 (Spectrum) system became available; it offers state-of-the-art technology to the UTC community.

The growing usage of computers within course frameworks is reflected in the 1989 Inventory of Courses. For example, the number of courses using computers has more than doubled in the period 1976 to 1989 (from 93 to 219 in FY88-89). The summary at the end of Table 1 shows that there has been a 64.7% increase in the number of courses using computers, using 1984 (CECA's initiation) as the base.

The 12 tables included in this FY 88-89 Inventory provide a comparison between the previous inventories and also demonstrate the growth patterns. The first six tables summarize the information from other inventories and show the information reported by departments for FY 1988-89. (For the sake of brevity, counts for FY 1978, 1980, and 1982 are shown as an average in these tables.) The connect time and CPU times for different accounts on the HP3000 systems from 1984 to 1989 are reported in Tables 7 and 8. Table 9 reports usage of the RJE facilities to UT-K for the years 1984 to the present. The usage of the IBM 4381 system for the past three years by department and by month is shown in Tables 10 and 11 (this information was provided by Ann Ford, Manager of IBM Center).

In this inventory, Table 12 has been added for the first time and reports on microcomputer usage by discipline, based on data recorded in the CECA microcomputer laboratories during the Spring '89 semester. (The data base for recording visits to the microcomputer laboratories became operational in January 1989). Lew Hall, Micro Lab Coordinator, provided the data necessary to construct Table 12.

FY 1988 - 89 continues the strong trend of three previous inventories which showed a rise in microcomputer usage and a corresponding drop in mainframe usage. This trend has been accelerated by the continuing high usage of two new microcomputer labs. The Hunter 407 facility contains 25 Mac SEs networked to four printers. The Grote 226 cluster is equipped with 20 IBM PCs. A lab containing 20 SEs is available for Developmental Studies students in Hooper.

This inventory could not have been produced without the support of all the academic departments. Their assistance is greatly appreciated.

Beth Craig, Assistant Director -Academic Computing

TABLE 1
Number of Courses Using Computers (1976-1989)
 (Addition sign after number indicates "at least")

DEPARTMENT	Average						
	1976-1982	1984	1985	1986	1987	1988	1989
<u>College of Arts & Sciences</u>							
Art	0	4	3	5	2	3	3
Biology	1	3	3	3	3	4	4
Chemistry	7	8	9	11	10	10	10
Communications	-	-	-	-	-	1	1
English	2	3	3	3	4	5	5
Environmental Studies	0	2	2	-	-	-	-
Foreign Language	2	6	6	6	6	6	6
General Science	2	0	1	1	1	1	1
Geoscience	0	1	1	3	3	7	9
Interdisc. Studies	0	1	1	1	1	0	0
Mathematics	9	12	8	7	7	7	12
Music	4	4	4	4	4	4	4
Physics	6	6	6	10	10	13	13
Political Science	1	2	2	4	4	4	4
Psychology	7	8+	9	9	9	11	11
Sociology/Anthropology	1	1	1	1	1	1	2
Theatre and Speech	0	0	0	0	0	0	2
Subtotal	42	61+	59	68	65	77	87
<u>School of Business Administration</u>							
Accounting/Finance	1	3	6	12	15	15	18
Business Administration	4	-	-	-	-	-	-
Economics	1	0	0	0	0	0	0
Management/Marketing	5	-	-	-	-	-	-
Management	-	9	12	11	14	14	14
Marketing	-	0	0	1	1	1	1
Office Administration	0	2	3	3	4	2	2
Subtotal	11	14	21	27	34	32	35
<u>School of Education</u>							
Educational Administration & Supervision (counted under Ed.)	1	3	2	2	2	2	2
Curriculum & Instruction	2	4	4	4	4	2	2
Health & Physical Education	1	1	1	1	1	2	2
Home Economics	1	0	0	0	0	0	0
Special Education	0	2	2	2	2	0	0
Subtotal	5	10	9	9	9	6	6

TABLE 1 cont'd.

DEPARTMENT	Average 1976-1982	1984	1985	1986	1987	1988	1989
<u>School of Engineering</u>							
Computer Science	16	26	30	31	30	32	32
Engineering	17	16	23	33	33	36	43
Subtotal	33	42	53	64	63	68	75
<u>College of Health and Human Service</u>							
Criminal Justice	1	4	6	6	6	6	5
Human Services	-	-	-	-	-	4	4
Nursing	0	1	1	0	0	0	4
Social Work	1	1	1	1	3	2	2
Subtotal	2	6	8	7	9	12	15
<u>Undergraduate and Special Programs</u>							
Special Services	0	0	1	1	1	1	1
Subtotal	0	0	1	1	1	1	1
GRAND TOTAL (All Dept's.)	93	133	151	176	181	196	219

Summary of Table 1
Number of Courses Using Computers

	Average 1976-82	1984	1985	1986	1987	1988	1989
College of Arts & Science	42	61	59	68	65	77	87
School of Business Administration	11	14	21	27	34	32	35
School of Education	5	10	9	9	9	6	6
School of Engineering	33	42	53	64	63	68	75
College of Health/Human Services	2	6	8	7	9	12	15
Undergrad/Special Pgms.	0	0	1	1	1	1	1
Total	93	133	151	176	181	196	219
Percent Increase (Base 1984)		100	113.5	132.3	136.1	147.4	164.7

Note: Departments with no computer usage have zeros in those columns.

Departments which have been reorganized or created since 1978 have dashes (-).

* In FY 85-86 Environmental Studies & Geosciences were combined.

TABLE 2
Summary of Faculty Computer Usage (1976-1988)
 (Addition sign after number indicates "at least")

DEPARTMENT	Average						
	1976-1982	1984	1985	1986	1987	1988	1989
<u>College of Arts & Sciences</u>							
Art	0	1	1	1	1	1	2
Biology	1	2	2	2	2	2	2
Chemistry	6	9	9	10	9	7+	7+
Communications	-	-	-	-	-	1	1
English	7+	10+	10+	10+	10+	2+	2+
Environmental Studies	0	0	3	2*	2*	-	-
Foreign Language	0	1	1	1	1	1	1
General Science	1	0	1	1	1	1	1
Geoscience	0	1	1	2	1	3+	3
Interdisc. Studies	0	1	1	1	1	0	0
Mathematics	10+	8	4	6	6	6	13
Music	5	3	3	3	3	2	2
Physics	4+	4	4	5	5	6	6
Political Science	1	2	2	3	3	3	3
Psychology	4+	3	4	4	4	5	5
Sociology/Anthropology	1	3	4	1	3	3	5
Theatre & Speech	-	-	-	-	-	-	1
Subtotal	39+	48+	50+	52+	52+	43+	54+
<u>School of Business Administration</u>							
Accounting/Finance	1	2	6	8	10	10	13
Business Administration	2	-	-	-	-	-	-
Economics	1	0	0	0	0	0	0
Management/Marketing	2	-	-	-	-	-	-
Management	-	7	8	5	7	8	10
Marketing	-	0	0	1	1	1	1
Office Administration	0	2	1	1	2	2	2
Subtotal	6	11	15	15	20	21	26
<u>School of Education</u>							
Educational Administration & Supervision (counted under Ed.)	0	2	2	-	1	1	1
Curriculum & Instruction	2	4	3	3	3	2	2
Health & Physical Education	1	1	1	1	1	2	2
Home Economics	1	0	0	0	0	0	0
Special Education	0	1	1	1	1	0	0
Subtotal	4	8	7	6	6	5	5

TABLE 2 cont'd

DEPARTMENT	Average						
	1976-1982	1984	1985	1986	1987	1988	1989
<u>School of Engineering</u>							
Computer Science	14+	9+	11+	11+	10+	10+	10+
Engineering	9+	10+	10+	10+	19+	21+	22+
Subtotal	23+	19+	21+	21+	29+	31+	32+
<u>College of Health and Human Service</u>							
Criminal Justice	1	2+	4+	4+	4+	5+	4+
Human Services	-	-	-	-	-	4	4
Nursing	0	1	1	0	0	0	3
Social Work	1	1	1	2	1	1	1
Subtotal	2	4+	6+	6+	5+	10+	12+
<u>Undergraduate and Special Programs</u>							
Special Services	0	0	0	0	2	2	2
Subtotal	0	0	0	0	2	2	2
GRAND TOTAL (All Dept's.)	74+	90+	99+	100+	114+	112+	131+

Note: Departments with no computer usage have zeros in those columns.

Departments which have been reorganized or created since 1978 have dashes (-).

* In FY 85-86 Environmental Studies & Geosciences were combined.

TABLE 3
Primary Method of Using Computers in Course

	Average*						
	1978-1982	1984	1985	1986	1987	1988	1989
Simulation	26	16	16	20	16	15	24
CAI	25	23	27	30	26	20	25
Problem Solving	30	38	52	62	66	65	67
Data Analysis	23	31	32	32	28	28	31
Graphics	2	12	6	8	3	4	5
Multi-User	0	0	7	14	34	44	46
Word Processing	0	2	0	2	1	9	10
Report Writing	0	0	2	1	1	1	1
Others (Logic & Syst. Design, etc.)	3	10	6	5	4	8	10
Not stated	0	0	3	2	2	2	0
Total	109	132	151	176	181	189	219

* Figure represents average of Inventories performed in 1976, 1978, 1980, and 1982.

Explanation of Terms Used in Table 3

<u>Types of Material</u>	<u>Description</u>
Simulation	Computer modeling or simulation of real world events so as to achieve a measure of realism (e.g. GHETTO, many of the CONDUIT packages).
CAI (Computer Aided Instruction)	Material of both a tutorial and remedial nature. The computer has some management of the material that is presented (e.g. English CAI).
Problem Solving	Programs composed by students to solve a problem. Also, it can refer to the execution of an existing program that has already been entered (canned program).
Data Analysis	Prepared programs which may be used in either interactive or batch mode. These packages may be applied either to student-entered data or existing data sets. (e.g. SPSS, QSTAT, BMDP, SAS, etc.)
Graphics	Programs (either "canned" or written by students) which display lines, curves, points, etc. on terminals. (Generally either the Tektronix 4107 or HP XY Plotter are used.)

TABLE 4
Relationship of Computing to Course

	Number of Courses						
	Average 1978-1982	1984	1985	1986	1987	1988	1989
Integral	54	85	99	121	129	147	167
Integral/Supplementary	4	3	0	0	0	0	0
Supplementary	29	30	30	34	30	32	34
Supplementary/Incidental	2	0	2	3	2	3	3
Incidental or not required	16	13	16	15	18	12	15
Not stated	1	1	4	3	2	2	0
Total	106	132	151	176	181	196	219

.....

Relationship of Computing to Course by Percentage

	Average*						
	1978-1982	1984	1985	1986	1987	1988	1989
Integral	49.50%	64.40%	65.60%	68.80%	71.30%	75.00%	76.25%
Integral/Supplementary	3.90%	2.20%	0.00%	0.00%	0.00%	0.00%	0.00%
Supplementary	25.50%	22.70%	19.90%	19.30%	16.60%	16.40%	15.52%
Supplementary/Incidental	1.80%	0.00%	1.30%	1.70%	1.10%	1.50%	1.37%
Incidental or not required	0.90%	9.90%	10.60%	8.50%	9.90%	6.10%	6.86%
Not stated	0.90%	0.70%	2.60%	1.70%	1.10%	1.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Figure represents average of Inventories performed in 1976, 1978, 1980, and 1982.

Explanation of Terms Used In Table 4

- Integral - The use of the computer is mandatory in the course and affects the grades.
- Supplemental - The use of the computer is an enhancement to the course material but is not mandatory. Students are urged to use the material for self improvement.
- Incidental/Not required - Students are informed of computer materials related to the course but are not required to use them.

TABLE 5
Number of Courses Based on Hours Per Student

Range of Hrs. Per Student	Average* 1978-1982	1984	1985	1986	1987	1988	1989
0 hrs.*	0	0	1	1	1	1	1
0-5 hrs.	43	47	52	75	81	79	74
6-10 hrs.	30	33	28	41	41	48	69
11-25 hrs.	14	22	36	24	33	28	32
26+ hrs.	22	27	29	31	23	38	43
Not stated	1	3	5	4	2	2	0
Total	110	132	151	176	181	196	219

* Figure represents average of Inventories performed in 1976, 1978, 1980, and 1982.

Computer Usage - Percent of Hours Per Student Per Semester

Range of Hrs. Per Student	Average* 1978-1982	1984	1985	1986	1987	1988	1989
0 hrs.**	0.00%	0.00%	0.70%	0.50%	0.50%	0.50%	0.46%
0-5 hrs.	39.20%	35.60%	34.40%	42.60%	44.80%	40.30%	33.79%
6-10 hrs.	26.80%	25.00%	18.50%	23.30%	22.70%	24.50%	31.51%
11-25 hrs.	12.90%	16.70%	23.90%	13.60%	18.20%	14.30%	14.61%
26+ hrs.	20.20%	20.50%	19.20%	17.60%	12.70%	19.40%	19.63%
Not stated	0.90%	2.20%	3.30%	2.30%	1.10%	1.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Figure represents average of Inventories performed in 1976, 1978, 1980, and 1982.

** Used for record keeping, no actual student activity.

Explanation of Terms Used in Table 5

Departments were requested to report the total hours each student spent on the computer in a course during a semester based on the following categories:

- 0-5 hours - light usage
- 6-10 hours - moderate usage
- 11-25 hours - heavy usage
- 26+ hours - extensive usage

TABLE 6
Computer Facilities Used in Curricula 1988

Number of Courses Using Facilities**

Department	HP3000	IBM 4381	Micros	RJE to UTK	Other*
<u>College of Arts & Sciences</u>					
Art			3		
Biology	2		4		
Chemistry	9		4		0
Communications	1				
English			5		
Environmental Studies	2	1	6		
Foreign Language			6		
Geoscience	2		5		
Mathematics	13				
Music	4				
Physics	8		11		
Political Science	4				
Psychology	3		4		4
Sociology/Anthropology	2		1		
Theatre and Speech			2		
Subtotal	50	1	52	0	4
<u>School of Business Administration</u>					
Accounting/Finance	2		16		
Business Administration					
Management/Marketing					
Management	7	6	12		
Marketing	1				2
Office Administration		2			
Subtotal	10	8	28	0	2
<u>School of Education</u>					
Educational Administration & Supervision (counted under Ed.)	2				
Curriculum & Instruction			2		
Health & Physical Education	2				
Home Economics					
Subtotal	4	0	2	0	0

Computer Facilities Used in Curricula 1988 (cont'd)

Department	HP3000	IBM 4381	Micros	RJE to UTK	Other*
<u>School of Engineering</u>					
Computer Science	10	29	6	4	2
Engineering	7	20	4		19
Subtotal	17	49	10	4	21
<u>College of Health and Human Services</u>					
Criminal Justice	5				
Human Services			5		
Nursing					4
Social Work	2				
Subtotal	7	0	5	0	4
<u>Undergraduate and Special Programs</u>					
Special Services			1		
Subtotal	0	0	1	0	0
GRAND TOTAL (279) (All Departments)	88	58	98	4	31

* Includes PLATO system used by Engineering Department.

** Because more than one system was used in some courses, totals may not correspond to totals in previous tables.

Summary by Department

DEPARTMENT	HP3000	IBM 4381	Micros	RJE to UTK	Other
College of Arts & Sciences	50	1	52	0	4
School of Business Administration	10	8	28	0	2
School of Education	4	0	2	0	0
School of Engineering	17	49	10	4	21
College of Health and Human Serv's	7	0	5	0	4
Undergraduate and Special Programs	0	0	1	0	0
Total	88	58	98	4	31

TABLE 7
Connect Time of HP3000 Systems*

DEPARTMENT	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Academic Computing	3295	3525	4457	3956	4598	1132
Archaeology	249	35	0	2	0	0
Barter Computer	557	682	62	73	351	24
Biology	339	241	106	10	0	1
Business Administration -						
Accounting	361	163	70	274	286	23
Economics	172	146	60	263	120	0
Management	1139	2766	2255	2215	3239	3855
Marketing	2180	615	45	60	16	170
Office Administration	1439	216	1	3	0	0
General	47	374	952	311	0	0
CECA	-	-	48	24	8	3151
Chemistry	607	473	334	254	272	145
Communications	0	30	308	59	248	259
Computer Science	44944	41333	28858	7117	1624	1789
Education -						
Admin. & Superv.	876	976	1267	705	928	1084
Curr. & Inst.	53	4	24	27	37	23
Health & P.E.	8	13	25	101	6	243
Home Economics	36	22	4	0	0	0
Special Ed.	1	154	11	0	0	0
Engineering	14938	14093	7776	8634	3178	1185
English	0	2	4	20	27	1
Environmental Studies	138	138	198	58	74	34
Foreign Language	-	-	26	0	0	0
Geoscience	166	142	22	53	0	0
GIS (Admissions)	1302	768	495	339	0	0
History	76	53	206	31	61	5
Health & Human Services -						
Criminal Justice	375	112	203	134	71	412
Nursing	-	-	52	19	100	1
Social Work	500	531	398	658	413	207
Library	109	397	653	390	384	160
Mathematics	3056	3539	3265	3110	4829	5065
Music	50	0	25	1	49	15
Physics	730	779	388	355	555	640
Political Science	93	124	306	105	167	604
Psychology	1012	686	1063	874	2048	1045
School - City	1585	589	362	11	1	0
County	369	20	0	5	3	0
Sociology	140	53	42	3	0	0
Undergrad. & Spec'l Programs	8	1	58	90	120	90
Unspecified/System	17156	11965	12960	14122	26215	14592
UTK (Graduate)	171	143	284	226	757	372
Word Processing	1965	4723	3951	4124	3742	3330
TOTAL	100491	90628	71625	48714	54527	39657

* From July - Dec 1988 systems used were the Series III and 58. In January 1989 the Series 950 was installed.

TABLE 8
CPU Time on HP3000 Systems*

DEPARTMENT	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Academic Computing	65	72	107	78	96	26
Archaeology	8	1	0	0	0	0
Barter Computer	25	23	2	2	2	3
Biology	9	17	2	1	0	0
Business Administration -						
Accounting	6	6	2	30	6	1
Economics	2	2	2	5	2	0
Management	18	32	42	55	35	58
Marketing	41	12	2	3	0	13
Office Administration	15	1	0	0	0	0
General	9	8	22	8	0	0
CECA	-	-	3	2	0	13
Chemistry	69	45	52	42	11	1
Communications	0	1	48	1	6	8
Computer Science	655	578	531	91	20	16
Education -						
Admin. & Superv.	19	18	25	12	16	11
Curriculum & Instruction	1	0	1	1	1	1
Health & P.E.	0	0	1	0	0	1
Home Economics	1	3	0	0	0	0
Special Education	0	2	0	0	0	0
Engineering	284	359	180	162	55	65
English	0	0	2	0	0	0
Environmental Studies	7	2	3	2	1	0
Foreign Language	-	-	1	0	0	0
Geoscience	2	2	1	1	0	0
GIS (Admissions)	6	7	5	2	0	0
History	4	1	5	5	3	0
Health and Human Services -						
Criminal Justice	1	0	4	3	1	5
Nursing	-	-	1	1	3	0
Social Work	10	8	9	24	12	4
Library	1	4	5	8	17	1
Mathematics	54	59	70	41	35	33
Music	4	0	0	0	1	0
Physics	19	24	7	4	5	2
Political Science	7	4	13	3	8	28
Psychology	18	13	25	26	76	27
School - City	12	4	3	0	0	0
County	2	0	0	0	0	0
Sociology	7	1	5	0	0	0
Undergrad. & Special Progra	0	0	2	1	5	2
Unspecified/System	402	537	401	226	211	121
UTK (Graduate)	2	5	11	5	20	11
Word Processing	29	55	51	37	47	42
TOTAL	1829	1906	1645	883	695	493

* From July - Dec 1988 systems used were the Series III and 58. In January 1989 the Series 950 was installed.

TABLE 9
Number of Academic Jobs Transmitted to UTK Facilities

Month	1984	1985	1986	1987	1988	1989
January	1932	3401	425	52	75	74
February	5225	6095	1730	69	71	57
March	4522	4599	2831	78	81	83
April	5172	6137	3137	44	74	64
May	3583	1207	667	112	56	106
June	5838	2779	644	96	49	
July	3756	2154	135	66	63	
August	3934	416	75	81	111	
September	5820	5838	231	86	108	
October	9519	3852	294	88	110	
November	7264	5603	227	53	94	
December	2590	508	141	59	53	
TOTAL	59155	42589	10537	884	945	384

TABLE 10
Departmental Usage of IBM 4381

Department	Connect Hours			CPU Hours		
	<u>FY86-87</u>	<u>FY87-88</u>	<u>FY88-89</u>	<u>FY86-87</u>	<u>FY87-88</u>	<u>FY88-89</u>
Admin. Computing	2911	533	906	13	10	14
Biology	2	0	0	0	0	0
CECA	65789	60597	50364	72	99	180
Computer Science	7536	11110	13400	94	186	215
Engineering	1491	907	12728	110	56	231
EPRI	1900	1276	1278	90	69	64
Management	986	1126	3771	26	168	355
Marketing	85	62	211	0	0	1
MUSIC	80050	79728	84416	254	232	312
Physics	1302	39	23	1072	0	0
System	126656	137749	155201	365	693	958
Unstated	162	793	917	5	3	17
Miscellaneous	232	21594	36482	27	116	87
TOTAL	<u>289102</u>	<u>315514</u>	<u>359697</u>	<u>2128</u>	<u>1632</u>	<u>2434</u>

TABLE 11
Monthly Usage on IBM 4381 System

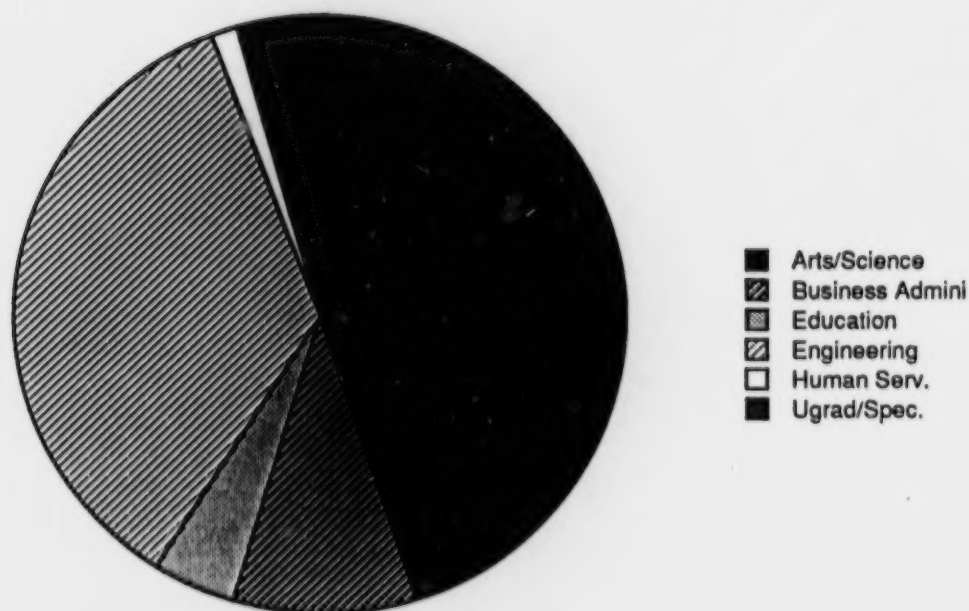
Department	Connect Hours			CPU Hours		
	<u>FY 86-87</u>	<u>FY87-88</u>	<u>FY88-89</u>	<u>FY86-87</u>	<u>FY87-88</u>	<u>FY88-89</u>
July	17198	23335	32536	108	91	184
August	16336	21392	25898	213	68	133
September	22224	24766	32029	77	129	152
October	26646	30267	31074	95	183	192
November	28961	28998	30434	133	186	210
December	21974	22064	24057	226	74	122
January	25383	26635	29772	493	98	193
February	26027	29222	32172	219	159	226
March	27657	28843	33260	169	148	343
April	30123	30974	30457	220	159	358
May	23002	23856	27268	103	178	141
June	23571	25162	30738	72	159	185
TOTAL	<u>289102</u>	<u>315514</u>	<u>359695</u>	<u>2128</u>	<u>1632</u>	<u>2439</u>

TABLE 12
Usage Statistics for Microcomputer Laboratories *
Hunter 407/408 and Grote 226 - Spring 1989

College or School	Total Lab. Hours	Number of Student Sessions
Arts and Sciences	6580	5273
Business Administration	1426	1300
Education	644	560
Engineering	5100	4620
Health & Human Services	184	53
Undergraduate/Special Programs	657	419
Total	14591	12225

* Statistics supplied by Lew Hall

FIGURE 1
Usage of Microcomputer Labs (Hunter 407/408 and Grote 226)
by College or School



SCHOOL OF ARTS AND SCIENCES

ART

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
209	Typography & Layout	Morin	Graphics	Micro	1	24	0-5 hrs.	Supplemental Incidental
250	Graphic Design: Publications	Strickland	Graphics	Micro	1	24	6-10 hrs.	Supplemental Incidental
309	Graphic Design	Morin	Graphics	Micro	1	24	6-10 hrs.	Supplemental Incidental

SCHOOL OF ARTS AND SCIENCES

BIOLOGY

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
306	Ecology	Litchford	Data Analysis System Simulation	HP3000 Mac Apple II	1	20-40	11-25 hrs	Integral
307	Ecology	Litchford	Data Analysis System Simulation	HP3000 Mac Apple II	1	20-40	11-25 hrs	Integral
315	Evolution	Nelson	Data Analysis	Mac	1	20-30	6-10 hrs.	Integral
450	Systematics	Nelson	Data Analysis	Mac	1	16	6-10 hrs.	Integral

SCHOOL OF ARTS AND SCIENCES

CHEMISTRY

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
121	General Chemistry I	Some	CAI	HP3000	13	50	6-10 hrs.	Supplemental
122	General Chemistry II	Some	CAI	HP3000	6	50	6-10 hrs.	Supplemental
125	Honors General Chemistry	Kutz	CAI Simulation	Micro HP3000	1	15	6-10 hrs.	Integral
341	Quantitative Analysis	Lynch	CAI	HP3000	2	35	6-10 hrs.	Supplemental
352	Organic Chemistry	Mebane	Simulation Problem Solving	Micro	4	20	2-5 hrs.	Integral
371	Physical Chemistry I	Kutz Rybolt	Simulation Problem Solving Interfacing	Micro HP3000	2	15	6-10 hrs.	Supplemental
372	Physical Chemistry II	Kutz Rybolt	Problem Solving	HP3000 Micro	2	12	11-25 hrs	Integral
436	Advanced Inorganic	Grant	Data Analysis	HP3000	1	16	0-5 hrs.	Integral
443	Instrumental Analysis	McNeely	Simulation Problem Solving	HP3000	1	16	6-10 hrs.	Supplemental
497	Research	Kutz	Problem Solving	HP3000	3	1	0-5 hrs.	Integral

SCHOOL OF ART AND SCIENCES

COMMUNICATIONS

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
450	Communication Research	Rushing	Data Analysis	HP3000	1	20	0-5 hrs.	Integral

SCHOOL OF ARTS AND SCIENCES

ENGLISH

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
105	Dev. Writing I	Meagher/ Staff	Word Processing	Macintosh	8	20	11-25 hrs	Integral
106	Dev. Writing II	Meagher/ Staff	Word Processing	Macintosh	8	20	11-25 hrs	Integral
121	Rhetoric & Composition	Meagher/ Staff	Word Processing	Macintosh	48	25	11-25 hrs	Supplemental
122	Rhetoric & Composition	Meagher/ Staff	Word Processing	Macintosh	44	25	6-10 hrs.	Supplemental
277	Prof. Writing	Bender	Word Processing	Macintosh	4	20	0-5 hrs.	Supplemental

SCHOOL OF ARTS AND SCIENCES

FOREIGN LANGUAGES

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
101	Elem. French	Sturzer	CAI	Micros	1	15	0-5 hrs.	Incidental Not Required
102	Elem. French	Sturzer	CAI	Micros	1	24	0-5 hrs.	Incidental Not Required
211	Intermediate French for Conversation	Sturzer	CAI	Micros	1	24	0-5 hrs.	Incidental Not Required
212	Intermediate French for Conversation	Sturzer	CAI	Micros	1	24	0-5 hrs.	Incidental Not Required
101	Elem. German	Sturzer	CAI	Micros	1	25	0-5 hrs.	Incidental Not Required
102	Elem. German	Sturzer	CAI	Micros	1	25	0-5 hrs.	Incidental Not Required

SCHOOL OF ARTS AND SCIENCES

GEOSCIENCES AND ENVIRONMENTAL STUDIES

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
111	Intro. to Geology	Churnet	Demo of Laser Disk Image	Apple IIe	1	60	0-5 hrs.	Integral
150	Concepts in Env'l Science	Perfetti	Problem Solving Population Growth Curves	HP3000	4	25	0-5 hrs.	Supplemental
151		Litchford	Simulation	Mac	1	13	11-25 hrs	Integral
307	Tennessee Geology	Churnet	Program	Apple IIe	1	11	0-5 hrs.	Integral
340	Env'l Survey Methods	Litchford	Data Analysis	HP3000 Micros	1	10	6-10 hrs.	Supplemental
406	Lithology		Demo of Laser Disk Image	Apple IIe	1	25	0-5 hrs.	Integral
465	Remote Sensing	Litchford	Analysis of Digital Data	Micro	1	20	26+ hrs.	Integral
498	Special Projects	Litchford	GIS	Macintosh IBM	1	20	26+ hrs.	Integral
501	Tennessee Geology		Program	Apple IIe	1	11	0-5 hrs.	Integral

SCHOOL OF ARTS AND SCIENCES

MATHEMATICS

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
105	Elementary Algebra	Darken	CAI	HP3000	20	25	0-5 hrs.	Incidental
106	Intermediate Algebra	Darken	CAI	HP3000	30	25	0-5 hrs.	Incidental
210	Intro. Statistics	Edwards Mawata Jayne Jur	Problem Solving	HP3000	10	30	5 hrs.	Incidental
212	Elementary Linear Algebra	Smith, R. Byrd Nymann	Problem Solving	HP3000	4	25	6-10 hrs.	Integral
303	Discrete Structures	Walters Kuhn	Problem Solving	HP3000	2	30	26+ hrs.	Integral
307	Applied Statistics	Smith, R. Nymann	Problem Solving	HP3000	2	25	6-10 hrs.	Integral
308	Numerical Methods	Rozema Walters	Problem Solving	HP3000	2	20	26+ hrs.	Integral
407	Probability/	Darken	Problem Solving	HP3000	1	25	6-10 hrs.	Incidental
408	Statistics				1	10	6-10 hrs.	
412	Linear Algebra	Dauer	Problem Solving	HP3000	1	25	6-10 hrs.	Integral
414	Oper. Research/ Linear	Dauer	Problem Solving	HP3000	1	12	6-10 hrs.	Integral

1989

MATHEMATICS (cont'd)

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
418	Advanced Numerical Methods	Walters	Problem Solving	HP3000	1	5	26+ hrs.	Integral
424	Oper. Research/ Nonlinear	Kindermann	Problem Solving	HP3000	1	12	6-10 hrs.	Integral
428	Packages for Math Computations	Saleh	Problem Solving	HP3000	1	5	26+ hrs.	Integral

SCHOOL OF ARTS AND SCIENCES

MUSIC

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
107	Theory I	Sanders	CAI	HP3000	3	30	6-10 hrs.	Supplemental
108	Theory I	Sanders	CAI	HP3000	3	20	6-10 hrs.	Supplemental
207	Theory II	Temko	CAI	HP3000	2	25	6-10 hrs.	Supplemental
208	Theory II	Temko	CAI	HP3000	1	23	6-10 hrs.	Supplemental

SCHOOL OF ARTS AND SCIENCES

PHYSICS

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
103	Gen. Physics	Lane	Simulation	Micro	2	50	1-5 hrs.	Integral
104	Gen. Physics	Huang	Simulation Graphics	Micro	2	40	1-5 hrs.	Integral
230	Principles of Physics, Statics, Mechanics Thermodyn.	Peterson Akers	Data Analysis	HP3000	1	20	6-10 hrs.	Integral
231	Principles of Physics, Electricity, Magnetism	Lowe Marlowe	Problem Solving Simulation Data Analysis Graphics CAI*	HP3000 Micro	3 2	40 15	6-10 hrs.	Integral
232	Principles of Physics, Optics, Mod. Physics	Davis Lane Marlowe	Problem Solving Simulation Data Analysis Graphics CAI*	HP3000 Micro	2	50	6-10 hrs.	Integral
303	Basic Electronics	Peterson Marlowe	Interfacing Machine Language Basic Program for Equipment Control	Micro	1	10	26+ hrs.	Integral

PHYSICS (cont'd)

1989								
<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
310	Thermo-dynamics	Lane	Simulation Graphics	Micro	1	7	6-10 hrs.	Integral
341	Intro to Theoretical Mechanics I	Davis Peterson	Problem Solving Data Analysis Graphics*	HP3000 Micro	1	6	6-10 hrs.	Integral
342	Theoretical Mechanics II	Davis Lane	Problem Solving Simulation Graphics*	HP3000 Micro	1	6	6-10 hrs.	Integral
411	Intro to Quantum Mechanics	Peterson	Simulation Graphics	HP3000 Micro	1	10	6-10 hrs.	Integral
424	Instrumentation, Interfacing and Micros	Lane	Problem Solving Simulation Graphics*	HP3000 Micro	1	5	11-25 hrs	Integral
482	Nuclear Physics Lab	Peterson	Instrumt. Control Data Analysis Graphics	Micro	1	8	26+ hrs.	Integral
498	Individual Studies	Walker	Graphics	HP3000	1	5	6-10 hrs.	Integral

* Listed as multi-use in Table 3

SCHOOL OF ARTS AND SCIENCES

POLITICAL SCIENCE

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
200	Research Methods	Neubauer	Data Analysis	HP3000	1	30	6-10 hrs.	Integral
202	Political Behavior	Brodsky	Data Analysis	HP3000	1	20	6-10 hrs.	Integral
203	Public Opinion	Neubauer	Data Analysis	HP3000	1	25	6-10 hrs.	Integral
242	International Relations	Swans- brough	Simulation	HP3000	1	18	0-5 hrs.	Integral

SCHOOL OF ARTS AND SCIENCES

PSYCHOLOGY

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
101	Introduction to Psychology *	Watson	Data Storage	HP3000	4	150	0 hrs.	Incidental Not required
201	Research Methodology: Intro to Statistics	Biderman	Data Analysis	Macintosh	2	25	6-10 hrs.	Integral
202	Research Methodology: Intro Statistics in Psychology	Green	Problem Solving	HP3000	1	17	0-5 hrs.	Integral
312	Sensation & Perception	Biderman	Problem Solving Demos Simulations CAI**	Macintosh	1	25	6-10 hrs.	Integral
313	Cognition	Warren- Leubecher	Demo Data Analysis Simulations	Micro	1	25	0-5 hrs.	Integral
401	Intermediate Statistics in Behavioral Sciences	Biderman	Data Analysis	IBM PC	1	10	26+ hrs.	Integral
510	Applied Research I	Biderman	Data Analysis Problem Solving CAI**	IBM PC	1	20	11-25 hrs	Integral

PSYCHOLOGY (cont'd)

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
511	Research Methods in Industrial/ Organizational Psychology	Biderman	Data Analysis	IBM PC	2	20	11-25 hrs	Integral
513	Advanced Research Techniques	Biderman	Data Analysis	IBM PC	2	15	26+ hrs.	Integral
514	Applied Research II	Warren- Leubecker	Data Analysis	HP3000	1	15	11-25 hrs	Integral
501	Organizational Effectiveness & Productivity	S. Jones	Word Processing Spreadsheet	Micro	1	24	11-25 hrs	Integral

* The computer was used in this course to store data on student progress; students did not use the computer.

** Listed as multi-use in Table 3.

SCHOOL OF ARTS AND SCIENCES

SOCIOLOGY AND ANTHROPOLOGY

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
151	Principles of Sociological Analysis	Geevarghes Robinson Cahill Pate Stokes	CAI	HP 3000	7	35	0-5 hrs.	Supplemental
215	Sociology of the Family	Robinson	CAI	HP 3000 Micro	3	30	0-5 hrs.	Supplemental

SCHOOL OF ARTS AND SCIENCES

THEATRE AND SPEECH

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
107	Voice and Diction	Wiley	CAI	Mac	1	25	0-5 hrs.	Incidental
251	Dev of Drama	Wiley	CAI	FAC MacII	1	25	0-5 hrs.	Incidental

SCHOOL OF BUSINESS ADMINISTRATION

ACCOUNTING AND FINANCE

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
201	Principles of Accounting I	Alvis Meyer Gavin Jeffords	CAI	Micro	12	40	6-10 hrs.	Integral
202	Principles of Accounting II	Meyer	Problem Solving	Micro	4	35	0-5 hrs.	Integral
301	Personal Finance	Callaway	Simulation	Micro	1	5	6-10 hrs.	Supplemental
302	Essentials of Managerial Finance	Fulmer Bertin Riley, N. Calloway Umor Zivney	Problem Solving	Micro	7	35	6-10 hrs.	Integral
303	Intermediate Accounting I	Willis Alvis Gavin	Problem Solving	Micro	3	35	0-5 hrs.	Integral
304	Intermediate Accounting II	Willis Alvis Gavin	Problem Solving	Micro	2	35	0-5 hrs.	Integral
305	Managerial Cost Accounting	Thibadoux	Problem Solving	Micro	3	35	0-5 hrs.	Integral
307	Federal Tax Accounting	Pauley	Problem Solving	Micro	3	35	0-5 hrs.	Integral
309	Advanced Tax Accounting	Pauley	Simulation	Micro	4	30	6-10 hrs.	Integral

ACCOUNTING AND FINANCE (cont'd)

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
321	Accounting and Finance	Riley, N.	Problem Solving	Micro	2	30	6-10 hrs.	Integral
322	Commercial Banking	Callaway	Simulation	Micro	2	25	6-10 hrs.	Supplemental
401	Advanced Accounting	Alvis	Problem Solving	Micro	2	30	6-10 hrs.	Integral
504	Fundamentals of Managerial Finance	Riley, N.	Problem Solving	Micro	1	20	6-10 hrs.	Integral
532	Tax Business Accounting	Pauley	Simulation	Micro	1	10	6-10 hrs.	Integral
540	Problems in Finance	Bertin	Data Analysis	HP3000	1	10	6-10 hrs.	Supplemental
542	Tax Plan	Pauley	Simulation	Micro	1	10	6-10 hrs.	Integral
546	Investments	Riley, N.	Problem Solving	Micro	1	20	6-10 hrs.	Integral
547	Finance Accounting	Gavin	Data Analysis	HP3000	1	15	6-10 hrs.	Supplemental

SCHOOL OF BUSINESS ADMINISTRATION

MANAGEMENT

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
211	Statistical Methods for Business I	Ahmadi Raiszadeh Macomber Johnson	Data Analysis	HP3000 Micro IBM 4381	11	45	0-5 hrs.	Integral
212	Statistical Methods for Business II	Ahmadi Raiszadeh Macomber Johnson	Data Analysis	HP3000 Micro IBM 4381	10	40	6-10 hrs.	Integral
311	Operations Management	Raiszadeh Macomber Dileepan	Data Analysis	HP3000 Micro IBM 4381	4	40	0-5 hrs.	Supplemental
315	Management Concept	White	Simulation	Micro	2	45	11-25 hrs	Integral
356	Management Science	Ahmadi Raiszadeh Johnson Sen	Linear Program Data Analysis	HP3000 Micro IBM 4381	6	25	11-25 hrs	Integral
440	Business Policy	Helms	Data Analysis	Micro	4	24	20-30 hrs	Integral
456	Forecasting	Macomber	Data Analysis	Micro	1	30	11-25 hrs	Integral
460	Info. Systems	Jih	CAI Data Analysis	Micro IBM 4381	1	30	11-25 hrs	Integral
503	Business Statistics	Macomber Ahmadi	Data Analysis	HP3000 Micro	2	45	11-25 hrs	Integral

MANAGEMENT (cont'd)

1989								
<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
511	Research Methods	Ahmadi	Data Analysis SPSS	HP3000 IBM 4381	2	30	26+ hrs.	Integral
512	MIS	Jih	CAI	Micro	2	30	11-25 hrs	Integral
570	Problems in Operations	Helms	CAI Data Analysis	HP3000	1	20	0-5 hrs.	Integral
577	Production and Inventory Control	Raiszadeh	CAI Data Analysis	Micro	1	20	6-10 hrs.	Integral
595	Business Policy	Helms	Simulation	Micro	2	16	6-10 hrs.	Integral

SCHOOL OF BUSINESS ADMINISTRATION

MARKETING

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
450	Marketing Research	Haynes	Data Analysis	HP3000	1	30	0-5 hrs.	Integral

SCHOOL OF BUSINESS ADMINISTRATION

OFFICE ADMINISTRATION

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
310	Business Communication	Nixon West	Problem Solving CAI Simulation	IBM PC	6	35	5 hrs.	Integral
450	Office Information Systems	Nixon	Report Writing	IBM PC	1	20	11-25 hrs	Integral

SCHOOL OF EDUCATION

ADMINISTRATION AND SUPERVISION

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
501	Methods of Educational Research	Whittacre	CAI	HP3000	6	20	26+ hrs.	Integral
598	Research	Whittacre	Data Analysis and SPSS	HP3000	2	10	11-25hrs	Integral

SCHOOL OF EDUCATION

CURRICULUM & INSTRUCTION

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
402	Sci. Methods- Elementary	Benson	Problem Solving	Micro	2	25	0-5 hrs.	Integral
404	Math Methods- Elementary	Wofford	Problem Solving	Micro	2	25	0-5 hrs.	Integral

SCHOOL OF EDUCATION

HEALTH, PHYSICAL EDUCATION AND RECREATION

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
401	Test and Measurements	Fanning	CAI	HP3000	1	25	11-25 hrs	Integral
456	Research	Ezell	Data Analysis	HP3000	1	20	0-5 hrs.	Integral

SCHOOL OF ENGINEERING

COMPUTER SCIENCE

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
102	Intro. Comp.	JC Smith	Problem Solving	Micros HP 3000 IBM 4381	4	20	26+ hrs.	Integral
118	Computer Programming With Fortran	JC Smith	Problem Solving	IBM 4381	4	20	26+ hrs.	Integral
121	Computer Programming I	Lewis	Problem Solving	IBM 4381	4	25	26+ hrs.	Integral
122	Computer Programming II	Day	Problem Solving	IBM 4381	4	18	26+ hrs.	Integral
201	Assembly Language Programming	Lewis	Problem Solving	IBM 4381	1	25	26+ hrs.	Integral
210	Computer Info Systems I	Litchford Lewis Smith Day Harston	Problem Solving	Apple Micros HP3000	23	30	26+ hrs.	Integral
211	Computer Info Systems II	Harston	Problem Solving	Apple Micros HP3000	6	30	26+ hrs.	Integral
251	Intro to File Processing	Lewis	Problem Solving	Micros IBM 4381 IBM 370(UT)	2	25	0-5 hrs.	Integral
252	Intro to Computer Organization	Delvalle	Problem Solving	Micros	1	20	0-5 hrs.	Integral

COMPUTER SCIENCE (cont'd)

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
280	Accelerated COBOL	Lewis	Problem Solving	IBM 4381	1	25	26+ hrs.	Integral
301	Systems Programming	Delvalle	Problem Solving	IBM 4381	2	25	26+ hrs.	Integral
312	Data Structures	Thompson	Problem Solving	IBM 4381	2	25	26+ hrs.	Integral
320	Operating Systems	Thompson	Problem Solving	IBM 4381	2	25	0-5 hrs.	Integral
335	File Processing	Smith	Problem Solving	IBM 4381	1	20	26+ hrs.	Integral
350	Software Engineering	Thompson Griffith	Problem Solving	IBM 4381 HP3000	2	25	11-25 hrs	Integral
410	Program Language Structures	C Smullen	Problem Solving	IBM 4381	1	30	26+ hrs.	Integral
430	Topics in Simulation	C Smullen	Problem Solving Simulation	IBM 4381	1	15	26+ hrs.	Integral
435	Data Base Info System	Delvalle	Problem Solving	HP3000 IBM PC IBM 4381	1	30	26+ hrs.	Integral
460	Computer Architecture	Delvalle	Problem Solving	IBM 4381	2	25	0-5 hrs.	Integral
490	Sr. Design Project	S Smullen	Problem Solving	IBM 4381	1	15	26+ hrs.	Integral
499	Group Studies	S Smullen	Other	IBM 4381 HP 3000 Micro	3	5	11-25 hrs	Integral

1989

COMPUTER SCIENCE (cont'd)

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
501	Structured Programming Data	Day	Problem Solving	Micros IBM 370(UT) IBM 4381	1	15	26+ hrs.	Integral
502	Computing Systems	Delvalle	Problem Solving	IBM 4381	1	15	26+ hrs.	Integral
503	Systems Program	Delvalle	Problem Solving	IBM 4381	1	10	26+ hrs.	Integral
510	Computer Program Language	C Smullen	Problem Solving	IBM 4381	1	20	26+ hrs.	Integral
515	Advanced Data Base System	JC Smith	Problem Solving	IBM 4381	1	10	26+ hrs.	Integral
535	Mini Micro Computers	Staff	Problem Solving	Micros IBM 4381	1	15	26+ hrs.	Integral
560	Advanced Computer Graphics	S Smullen	Graphics	IBM 4381	1	15	26+ hrs.	Integral
580	Artificial Intelligence	C Smullen	Problem Solving	IBM 4381 IBM PC	1	15	11-25 hrs	Integral
590	Independent Projects	Thompson C Smullen S Smullen Delvalle Day	Other	IBM 4381 IBM 370(UT) Micro HP3000	2	5	26+ hrs.	Integral
591	Special Topics	Thompson C Smullen S Smullen Delvalle Day	Problem Solving	IBM 4381	2	5	26+ hrs.	Integral

COMPUTER SCIENCE (cont'd)

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
599	Thesis	Thompson C Smullen S Smullen Delvalle	Problem Solving	IBM 4381 Micros HP 3000 IBM 370(UT)	2	5	26+ hrs.	Integral

SCHOOL OF ENGINEERING

ENGINEERING

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
103	Basic Engr. Science I	Jones Cassell Hiestand McDonald	CAI	PLATO	5	28	0-5 hrs.	Incidental
104	Basic Engr. Science II	Jones Cassell Hiestand McDonald	CAI CAD	PLATO IBM PS2	5	15	0-18 hrs.	Integral
124	Intro to Engineering Computations	Cunningham	Problem Solving	HP3000	6	30	26+ hrs.	Integral
225	Engineering Computations and Numerical Techniques	Hiestand Schonblom Carney	Problem Solving	IBM 4381	7	20	26+ hrs.	Integral
271	Dynamic Systems I	Carney Smith	Simulation	IBM PS2	6	25	6-16 hrs.	Integral
272	Dynamic Systems II	Carney Smith	Simulation	IBM PS2	6	25	6-16 hrs.	Integral
307	Fluid Mechs.	Jones Knight	Problem Solving	HP3000	3	30	6-10 hrs.	Supplemental
311	Pollution Controls	Cunningham	Simulation	HP3000 IBM 4381	1	80	6-10 hrs.	Integral
322	Probability & Statistics for Engr.	Schonblom	Problem Solving Data Analysis	HP3000	5	25	6-10 hrs.	Integral

ENGINEERING (cont'd)

1989

Course	Title	Instructor	Type of Material	System	# of Sects	Student Section Approx.	Time/ Students/ Semester	How Utilized In Course
325	Systems Dynamics	Parten Fashoro	Simulation Graphics	IBM 4381	5	25	0-5 hrs.	Integral
328	Auto Controls	Carney	Problem Solving	PS2	2	30	6-16 hrs.	Integral
329	Auto Control Lab	Fashoro	Simulation	4381 PS2	2	30	26+	Integral
371	Electronics	Todd Jones	Simulation	PS2	5	30	0-5 hrs.	Integral
372	Electronics	Todd Jones	Simulation	PS2	5	30	0-5 hrs.	Integral
373	Auto Controls	Fashoro	Problem Solving	IBM PS/2 IBM 4381	3	25	11-25 hrs	Integral
379	Controls Lab	Fashoro	Simulation Problem Solving	IBM 4381 IBM PS/2	4	20	26+ hrs.	Integral
380	Intro to Engr. Design	McMahon	Data Analysis	IBM PC Mac	1	30	11-25 hrs	Integral
405	Heat & Mass Transfer	Damshala McDonald	Problem Solving	HP3000	2	30	11-25 hrs	Supplemental
430	Thermal Syst. Design	J. Henry	Simulation	IBM 4381	1	5	0-5 hrs.	Integral
431	Chemistry Process Principles	J. Henry	Problem Solving CAI	Mac	1	20	0-5 hrs.	Integral
432	Chemical Operations	Cunningham	Problem Solving	IBM 4381	1	10	6-10 hrs.	Integral

ENGINEERING (confd)

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects</u>	<u>Student Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
433	Chemical Oper. II	Cunningham	Problem Solving	IBM 4381	1	10	6-10 hrs.	Integral
434	Chemical Kinetics and Reactor Design	Cunningham	Problem Solving	IBM 4381	1	10	0-5 hrs.	Integral
436	Thermal Component Design	Hiestand	Problem Solving	IBM 4381	1	10	0-5 hrs.	Integral
438	Advanced Fluid Dynamics	M. Jones	Problem Solving	IBM 4381	1	7	0-5 hrs.	Supplemental
445	Mechanical Fibration	W. Gurley	Simulation Graphics	IBM 4381	1	25	6-10 hrs.	Integral
446	Advanced Mechanics of Materials	W. Gurley	Simulation Graphics	IBM 4381	1	25	6-10 hrs.	Integral
450	Ind. Engr. Design	Hailey	Problem Solving Simulation Data Analysis	IBM 4381	1	10	0-5 hrs.	Supplemental
452	Engr. Economy	McMahon	Data Analysis	IBM 4381	1	30	0-5 hrs.	Incidental
458	Facility Design	Evans	Simulation Data Analysis	IBM 4381	1	20	0-5 hrs.	Supplemental
465	Structural Engineering	Foster	Problem Solving Data Analysis Graphics	IBM PC	1	10	11-25 hrs	Integral

ENGINEERING (cont'd)

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
468	Elementary Structural Methods	Wynn	Problem Solving Data Analysis Graphics	HP3000 IBM 4381	1	25	11-25 hrs	Integral
471	Electrical Energy Systems	Eltom	Simulation	IBM PC	1	10	6-10 hrs.	Integral
472	Electrical Energy Systems	Eltom	Simulation	IBM PC	1	10	6-10 hrs.	Integral
477	Instrumen- tation	Jones	Simulation	IBM PS/2	1	25	11-25 hrs	Integral
478	Sampled Data Systems	Parten	Problem Solving	IBM PS/2	1	23	0-5 hrs.	Supplemental
493	Senior Design Exper.	Evans McMahon Carney	Problem Solving Reporting Simulation	IBM PS2 IBM PC IBM 4381	4	17	26+ hrs.	Integral
494	Senior Design Exper.	Evans McMahon Carney	Problem Solving Reporting Simulation	IBM PS2 IBM PC IBM 4381	4	17	26+ hrs.	Integral
502	B 162 Transforms	Parten	Problem Solving	IBM PS/2	4	12	6-10 hrs.	Integral
536	Mass Trans. Ops.	Henry	Simulation	IBM 4381	1	4	6-10 hrs.	Integral
542	Finite Element Analysis	Gurley	Simulation Graphics	IBM 4381	1	15	6-10 hrs.	Integral

ENGINEERING (cont'd)

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
552	Ind. Stat. & Q.C.	Evans	Simulation Data Analysis	HP3000	1	10	11-25 hrs	Integral
591	Power Sys Ops.	Eltom	Simulation	PS2	1	10	0-5 hrs.	Integral

COLLEGE OF HEALTH AND HUMAN SERVICES

CRIMINAL JUSTICE

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
301	Information Systems in Criminal and Juvenile Justice	Thompson	Data Analysis	HP3000	2	35	0-5 hrs.	Integral
322	Planning	Staff	Data Analysis	HP3000	1	30	0-5 hrs.	Integral
411	Research Methods	Bush	Data Analysis	HP3000	1	30	0-5 hrs.	Supplemental
500	Research Methods	Fjeld	Data Analysis	HP3000	1	15	0-5 hrs.	Supplemental
530	Systems Planning	Anderson	Data Analysis	HP3000	1	10	0-5 hrs.	Supplemental

COLLEGE OF HEALTH AND HUMAN SERVICES

HUMAN SERVICES

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
100	Principles of Effective Study	Thow	Word Processing	Mac	2	40	0-5 hrs.	Integral
300	Perspectives on Work in Professions	Arfken	Word Processing	Mac	5	30	0-5 hrs.	Supplemental
301	Social Policy & Soc. Change	Anderson	Word Processing	Mac	1	20	11-25 hr	Integral
440	Human Service: Supervision	Craig	Word Processing	Mac	1	15	0-5-hrs.	Integral
450	Seminar in H.S. Admin.	Anderson	Word Processing	Mac	1	15	0-5 hrs.	Integral

COLLEGE OF HEALTH AND HUMAN SERVICES

SCHOOL OF NURSING

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
199R	Nursing Skills Workshop	Charles	CAI Simulation	IBM/PC	1	10	0-5 hrs.	Integral
204	Concepts of Health Awareness	Beahm	Simulation	IBM/PC	1	7	0-5 hrs.	Supplemental
205	Nursing Process	Beahm	Simulation	IBM/PC	4	8	0-5 hrs.	Integral
317	Physical Assessment	Ch'ien	CAI	IBM/PC	3	20	11-25 hrs	Integral

COLLEGE OF HEALTH AND HUMAN SERVICES

SOCIAL WORK

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
250	Charity in Western Civilization	Brown	Simulation	HP 3000	5	200	0-5 hrs.	Supplemental
400	Social Welfare Policy Research	Brown	Data Analysis Simulation	HP 3000	1	9	6-10 hrs.	Integral

UNDERGRADUATE AND SPECIAL PROGRAMS

SPECIAL SERVICES

1989

<u>Course</u>	<u>Title</u>	<u>Instructor</u>	<u>Type of Material</u>	<u>System</u>	<u># of Sects.</u>	<u>Student/ Section Approx.</u>	<u>Time/ Students/ Semester</u>	<u>How Utilized In Course</u>
Special Servs.	Academic Support Services	Arken Mickler	Word Proc'g CAI Testing	Micro	Open Lab 110 (approx)		0-5 hrs.	Supplemental

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